

### REMARKS

The Office Action of June 30, 2006, has been received and reviewed.

Claims 1-3, 5, 7, 9-27, 29, and 31-33 are currently pending and under consideration in the above-referenced application, each standing rejected.

Reconsideration of the above-referenced application is respectfully requested.

#### Rejections under 35 U.S.C. § 103(a)

Claims 1-3, 5, 7, 8, 10-27, 29, and 31 have been rejected under 35 U.S.C. § 103(a).

The standard for establishing and maintaining a rejection under 35 U.S.C. § 103(a) is set forth in M.P.E.P. § 706.02(j), which provides:

To establish a *prima facie* case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations. The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art, and not based on applicant's disclosure. *In re Vaeck*, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991).

#### Shinbanai in View of Coffey

Claims 1-3, 5, 7, 8, 10-27, 29, and 31 are rejected under 35 U.S.C. § 103(a) for being directed to subject matter that is assertedly unpatentable over the subject matter taught in U.S. Patent 4,722,815 to Shinbanai (hereinafter "Shinbanai"), in view of teachings from U.S. Patent 4,293,602 to Coffey et al. (hereinafter "Coffey").

#### *Shinbanai*

Shinbanai teaches a method for forming a synthetic resin product that includes incorporating an additive, such as a fragrance, into cyclodextrin. The cyclodextrin-fragrance compound is dried, powdered, and mixed with a resin in such a way as to convert reducing sugars that are present as impurities in the cyclodextrin into chemically stable glycitols. The

product is then dried, powdered, and mixed with resin to form a product which may subsequently be mixed into a larger quantity of compatible resin so that fragrance or another additive may be included in an article of manufacture made with the larger quantity of compatible resin. In each of the Examples provided by Shinbanai, this fragrance-including resin is formed into pellets or ground into a powder. With respect to the types of resins in which the fragrance-imparting compound of Shinbanai may be used, the teachings of Shinbanai are limited to thermoplastic resins and thermoset resins. Shinbanai, col. 7, lines 59-66. This appears to be because thermoplastic and thermoset resins are often subjected to temperatures that may cause fragrance or other additives to decompose or evaporate.

If the resin of the fragrance-imparting compound comprises a thermoplastic material, the fragrance-imparting compound may be heated and, thus, dissolved into thermoplastic resins. If, however, the resin of the fragrance-imparting compound is a thermoset resin, or if the fragrance-imparting compound is used in a thermoset-resin that sets at a temperature that is less than the melting temperature of the fragrance-imparting compound, the powder or small pellets of the fragrance-imparting compound must be dispersed throughout the resin from which an article of manufacture is to be made.

Shinbanai is silent as to the hardness of the materials into which the fragrance-including compound is incorporated, although none of those disclosed appears to approach the hardness of a bowling ball.

### *Coffey*

Coffey teaches the use of fragrant resins from which ornaments and jewelry pieces may be molded. The fragrances thereof are emitted from a natural botanical material, such as flowers or buds. Col. 2, lines 41-45. Additionally, an essential oil is absorbed into the natural botanical material or an accompanying fixative “to bolster the naturally occurring fragrance . . .” Col. 2, lines 49-55. The fragrances are bound by a fluorocarbon resin binder, which interlocks the botanical material when molded. *See* Col. 2, lines 45-49. The sole example provided by Coffey is a TEFLON 30 suspension, from which water is driven during the molding process. *See* Col. 4,

lines 39-53; col. 5, lines 10-19. It is well known that fluorocarbon resins, such as TEFLON 30, are thermoplastic materials, not two-part resins.

*The Usual and Customary Meaning of "Two-Part Resin"*

It has been asserted that the term "two-part resin" recited in the claims of the above-referenced application includes thermoplastic resins and thermoset resins, such as those taught in Shinbanai and Coffey. It is respectfully submitted that, in view of the usual and customary meaning of the term "two-part resin," thermoplastic resins and thermoset resins are not "two-part resins."

As evidenced by the enclosed copies of various web pages, the term "two-part resin" is a term of art that applies to compounds that are formed by mixing two parts—a resin and a catalyst, or "hardener"—to form a cured compound. The as-filed specification of the above-referenced application provides examples of such compounds, including the polyol-isocyanate mixture described in paragraphs [0011] and [0012] thereof.

Further, as indicated by the web pages bearing the heading "Our Products – CBT Resin: One/Two Part Systems" and "One and Two-Part Resin Systems for Electronic & Industrial Potting Applications," one-part systems are well-known in the art to be systems in which the resin and catalyst are premixed (*i.e.*, which do not require mixing to polymerize, or cure, the same). The thermoset resins that are taught in Shinbanai do not require mixing and, thus, would be considered by those of ordinary skill in the art to be one-part resins.

In view of the foregoing, it is again submitted that the teachings of Shinbanai and Coffey, which are limited to one-part thermoplastic resins and on-part thermoset resins, do not apply to "two-part resins."

It is respectfully submitted that there are at least two reasons that the teachings of Shinbanai and Coffey do not support a *prima facie* case of obviousness against any of claims 1-3, 5, 7, 8, 10-27, 29, or 31.

First, it is respectfully submitted that Shinbanai and Coffey do not teach or suggest each and every element of any of claims 1-3, 5, 7, 8, 10-27, 29, or 31. In particular, the teachings of

Shinbanai are limited to use of a thermoplastic resin or thermoset resin, while the teachings of Coffey are limited to thermoplastic resins. Both of thermoplastic and thermoset resins are single-part resins.

Independent claim 1, as well as claims 2, 3, 5, 7, and 8, which depend therefrom, requires that a bowling ball include a mass comprising a two-part resin.

Claims 11-13, 18, and 19, which depend either directly or indirectly from claim 10, recite methods for manufacturing bowling balls that include providing a polyol, which is well known to be one part of a two-part polyurethane. Claim 17, which also depends from independent claim 10, more broadly recites a bowling ball manufacturing method which includes “introducing a polymerization catalyst for [a] liquid material into [a] cavity . . .,” or introducing both a first part and a second part of a two-part resin into a cavity.

Independent claim 20, as well as claims 21-26 depending therefrom, are drawn to a method for manufacturing an article of manufacture which includes, among other things, blending fragrance into a polyol, or first part of a two-part polyurethane resin, and introducing that mixture and a polymerization catalyst, or second part of the two-part polyurethane resin, into a cavity of a mold. Independent claim 20, and claims 21-26 which depend therefrom, is further allowable over the asserted combination of teachings from Shinbanai and Coffey since Shinbanai and Coffey lack any teaching or suggestion of “substantially removing gas or gas bubbles from a mixture including [a] polyol and [a] fragrance . . .”

Claim 21 is further allowable since Shinbanai and Coffey do not teach or suggest dissolving at least one fragrance in a polyol.

Claim 23 is additionally allowable because neither Shinbanai nor Coffey includes any teaching or suggestion of blending a polymerization catalyst for a polyol with a polymerization catalyst therefor.

Claim 24 depends directly from claim 23 and is also allowable since Shinbanai and Coffey both lack any teaching or suggestion of introducing an isocyanate into a cavity of a mold within which a mixture that includes the polyol and at least one fragrance is carried.

Like independent claim 1, independent claim 27, as well as claims 29 and 31 which depend therefrom, are directed to an article of manufacture which includes a mass that comprises a two-part resin.

Claim 31 is further allowable because none of the bowling ball art, Shinbanai, or Coffey teaches or suggests an article of manufacture that comprises a two-part polyurethane into which at least one fragrance is at least partially dissolved.

As Shinbanai and Coffey do not teach or suggest each and every element of any of claims 1-3, 5, 7, 8, 10-27, 29, or 31, it is respectfully submitted that the teachings of Shinbanai do not support a *prima facie* case of obviousness against any of claims 1-3, 5, 7, 8, 10-27, 29, or 31.

Second, with respect to the subject matter recited in claims 1-3, 5, 7, 8, and 10-19, it is respectfully submitted that, without the benefit of hindsight provided by the claims of the above-referenced application, one of ordinary skill in the art wouldn't have been motivated to combine the teachings of Shinbanai and Coffey in the manner that has been asserted.

With respect to motivation for one of ordinary skill in the art to combine and modify the teachings of Shinbanai and Coffey in the asserted manner, the following assertion was made in the Office Action of June 20, 2006: "Clearly one would be motivated by the teachings of the prior art to make a synthetic resin product such as a bowling ball more appealing." Office Action of June 30, 2006, page 2. Unfortunately, no support in the art at the relevant time period has been provided for this "clear" motivation to incorporate fragrance into bowling balls. Further, the desirability of including fragrance in plastic jewelry does not translate to use of fragrance in bowling balls.

Moreover, a bowling lane typically comprises a hardwood surface which is usually coated with a wax or oil to reduce friction as the bowling ball is rolled therealong. As a bowling ball is thrown or rolled down a bowling lane, a spin is sometimes placed on the ball either by the player or by the central gravity of the ball. This causes the ball to "hook" somewhat diagonally across the lane. In order to successfully hit the pins to obtain a strike, the ball must contact the pin formation in one of a few specific locations. Similarly, in order to hit specific pins, the "hook" of a ball must be known, so that appropriate spin may be generated. For each bowling ball, the

“hooking” ability is determined by the interaction of the ball surface with the lane. While each bowling ball should have the same “hook,” in practice, any substance added to a bowling ball changes the porosity, the density or other aspects of the bowling ball surface, altering the manner in which the bowling ball spins and, thus, the “hook” of the bowling ball. Players are known to select balls based on manufacturer and even color in order to maximize their ability to throw the ball correctly and consistently. One of ordinary skill in the art would know that adding any additional substance to a bowling ball would alter the surface of the ball, causing it to roll differently and “hook” sooner or later as it rolls down the lane. *See, e.g.,* the 2005 WSJ Article. Accordingly, without the benefit of hindsight that has been provided to the Office by way of the disclosure and claims of the above-reference application, one of ordinary skill in the art wouldn’t have been motivated to add *fragrance* to the material of the bowling ball, as it would alter the expected playability of a bowling ball in an unreliable manner. To the contrary, one of skill in the art would have been discouraged from doing so. Certainly, he or she would not have known that adding a fragrance would not adversely affect the performance of the ball, or possibly even improve its performance, as has been the surprising and unexpected result of adding a fragrance. *See, Declaration of John W. Chrisman III, dated March 27, 2006.*

Shinbanai, Coffey, and Anderson

Claims 9, 32, and 33 stand rejected under 35 U.S.C. § 103(a) for being drawn to subject matter that is purportedly unpatentable over the subject matter taught in Shinbanai, in view of teachings from Coffey and, further, in view of the teachings of U.S. Patent 4,762,493 to Anderson (hereinafter “Anderson”).

Anderson teaches scented crayons, which are formed from wax, and that the scents of crayons may correspond to their colors. It is well known that waxes are thermoplastic materials, not two-part resins.

Claims 9 is allowable, among other reasons, for depending directly from claim 1, which is allowable.

Claims 32 and 33 are both allowable, among other reasons, for respectively depending directly and indirectly from claim 27, which is allowable.

Further, it is respectfully submitted that claims 9, 32, and 33 are each allowable because a *prima facie* case of obviousness has not been established against any of these claims.

Specifically, while Anderson teaches crayons with scents that correspond to their colors, Anderson merely provides an additional teaching of a one-part material, wax, which has fragrance mixed therein. Thus, Anderson does not remedy the previously discussed deficiencies of Shinbanai and Coffey.

Therefore, withdrawal of the 35 U.S.C. § 103(a) rejections of claims 9, 32, and 33 is respectfully requested, as is the allowance of each of these claims.

#### Secondary Considerations of Non-Obviousness

John W. Chrisman, III, has provided declarations to evidence the secondary considerations of nonobviousness that must be considered by the Office in determining whether the claims of the above-referenced application are indeed patentable.

Despite the overwhelming evidence of commercial success that has been provided, the Office continues to assert that something other than the incorporation of fragrance into an article of manufacture, such as a bowling ball—specifically lower cost—could be responsible for the commercial success of that article of manufacture. In response, a proposed third declaration is enclosed for the Office's consideration. The third declaration includes a statement that the scented bowling balls sold by Storm Products are sold at higher prices than competitive lines of bowling balls from other manufacturers. Despite consistently higher prices, Storm's scented bowling balls account for more than a thirty percent (30%) share of their market segment.

Accordingly, it is apparent that the commercial success of Storm's scented bowling balls may be attributed to the incorporation of fragrance therein.

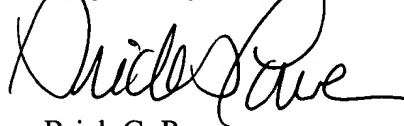
#### **CONCLUSION**

It is respectfully submitted that each of claims 1-3, 5, 7, 9-27, 29, and 31-33 is allowable. An early notice of the allowability of each of these claims is respectfully solicited, as is an indication that the above-referenced application has been passed for issuance. If any issues

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preventing allowance of the above-referenced application remain which might be resolved by way of a telephone conference, the Office is kindly invited to contact the undersigned attorney.

Respectfully submitted,

A handwritten signature in black ink, appearing to read "Brick G. Power", written over the typed name.

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